



SS – 686

V Semester B.C.A. Degree Examination, Nov./Dec. 2018
(CBCS) (F + R) (2016-17 and Onwards)

COMPUTER SCIENCE

BCA – 505 : Microprocessor and Assembly Language

Time : 3 Hours

Max. Marks : 70

Instruction : Answer *all* Sections.

SECTION – A

Answer **any 10** questions : **(10×2=20)**

1. What is a microprocessor ?
2. Explain briefly about the different types of buses in 8085.
3. Name the flags of 8085.
4. Mention any two instructions which clear the contents of accumulator.
5. Explain any two data transfer instructions of 8085.
6. Compare SUB reg and CMP reg instructions.
7. Write an assembly language program to find the 2's complement of an 8-bit number.
8. Define the terms machine cycle and instruction cycle.
9. Define counters and time delays.
10. Define interrupt.
11. Write an assembly language program to add two bytes.
12. What is memory interfacing ?

P.T.O.



SECTION - B

Answer **any five** questions : (5×10=50)

13. Explain the functional block diagram of 8085 microprocessor with a neat diagram. **10**
14. a) What is addressing mode ? Explain briefly the various addressing modes of 8085 microprocessor. **10**
 b) Explain the classification of 8085 microprocessor instructions based on word size. Give example. **(5+5)**
15. a) Write an assembly language program to subtract two 16 bit numbers. **10**
 b) Explain the instructions DAA and DAD r_p . **(8+2)**
16. a) With an example, explain the logical instructions of 8085 microprocessor. **10**
 b) Calculate the time delay using a register with clock frequency of 2 MHz
 MVI C₁ FF
 LOOP DCR C
 JNZ LOOP. **(5+5)**
17. a) Explain the different operations that can be performed on stack. **10**
 b) Explain conditional CALL and RET instruction of 8085 microprocessor. **(5+5)**
18. a) Differentiate memory mapped I/o and peripheral mapped I/o. **10**
 b) Write an assembly program to convert BCD to binary. **(5+5)**
19. a) Briefly explain the 8085 vectored interrupts. **10**
 b) Write a note on RIM and SIM 8085 instructions. **(5+5)**
20. Write short notes on : **10**
 a) DMA **5**
 b) Demultiplexing of address bus in 8085. **(5+5)**



SN – 666

V Semester B.C.A. Degree Examination, Nov./Dec. 2017
(CBCS) (F+R) (2016-17 and Onwards)
BCA – 505 : MICROPROCESSOR AND ASSEMBLY LANGUAGE

Time : 3 Hours

Max. Marks : 70

Instruction : Answer all the Sections.

SECTION – A

Answer **any ten** questions.

(10×2=20)

1. What is Microprocessor ? Give the word length of 8085 Microprocessor.
2. Explain Program Counter and Stack Pointer.
3. Write any two examples for 3 byte Instructions.
4. Explain Instruction DAD D.
5. What is a Subroutine ?
6. Define counting and looping.
7. Define Maskable and Non-maskable interrupts of 8085.
8. Explain SID and SOD Pins of 8085.
9. Compare POP and PUSH Instruction.
10. What are handshake signals ?
11. What is I/O Interfacing ?
12. Find the number of bytes required to store the following instructions :
 - 1) LXID, 8500
 - 2) CPI FFH.

P.T.O.



SECTION – B

Answer **any five** questions.**(5×10=50)**

13. Draw the architecture of 8085 microprocessor and briefly explain. **10**
14. a) What are flags ? Draw the format of flag register and explain their function. **5**
b) Write a program to load 07F in the register B and find its 2's complement. **5**
15. a) Write an assembly language program to multiply two digit BCD. **5**
b) Write a program to add two-16-bit nos. **5**
16. a) What is a stack ? Explain PUSH and POP operation. **6**
b) Explain unconditional Jump Instructions. **4**
17. a) Explain the following instructions of 8085 : **6**
i) STAXD
ii) CMPM
iii) XCHG.
b) Explain nesting of subroutine with an example. **4**
18. a) Explain CALL and RETURN operations in 8085. **5**
b) Explain RIM and SIM Instructions. **5**
19. What is Interrupt ? Explain various interrupts of 8085. **10**
20. Write short notes on :
a) Addressing modes of 8085 **5**
b) Data transfer instructions in 8085. **5**
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NS – 615

V Semester B.C.A. Degree Examination, Nov./Dec. 2016
(CBCS) (Fresh)
COMPUTER SCIENCE
BCA – 505 : Microprocessor and Assembly Language
(2016-17 and Onwards)

Time : 3 Hours

Max. Marks : 70

Instruction : Answer **all** Sections.

SECTION – A

I. Answer **any ten** questions : (10×2=20)

- 1) What is the function of instruction register and decoder ?
- 2) Draw the flag register mentioning the flag status.
- 3) What is immediate addressing ? Mention an example.
- 4) Write any two instructions to clear the contents of accumulator register.
- 5) Find the contents of accumulator after executing the following block of program segment. Content of B register is 3EH. initially.

```
MOV A, B
RLC
RLC
HLT.
```

- 6) Explain DAA instruction.
- 7) Draw the flowchart to generate delay loop using register.
- 8) Differentiate between absolute and partial decoding.
- 9) Two consecutive memory locations store 3EH and 2FH data respectively. Find the content of accumulator after executing following segment of program.

```
LX1 H 2050H
MOV A, M
INXH
SUBM
INXH
MOV M, A
```

- 10) What is I/o interfacing ?
- 11) Draw the bit pattern of control word for 8255.
- 12) Explain the priority modes of 8259.

P.T.O.



SECTION - B

- II. Answer **any five** questions : (5×10=50)
- 13) a) Draw the pin configuration of 8085 processor. 5
 b) With diagram explain how control signals are generated? 5
- 14) a) Write an ALP to add two-N byte numbers. 5
 b) Classify the instructions based on sizes and explain each with an example. 5
- 15) a) Explain i) STAX D ii) ADC R iii) XCHG instructions. 6
 b) Explain unconditional jump instruction. 4
- 16) a) Write an ALP for block transfer of data bytes. 5
 b) Calculate the count to obtain 100 μ s loop delay. Let the clock frequency be 2MHz.
 MVI B, Count
 loop : NOP 4T
 NOP 4T
 DCR B 4T
 JNZ loop 10/7T 5
- 17) a) Explain nesting of subroutines with an example. 5
 b) Explain memory read machine cycle with timing diagram. 5
- 18) Compare memory mapped I/o and I/o mapped I/o. 10
- 19) a) What is an interrupt? Explain the classification of interrupts. 6
 b) Explain RIM instruction with bit pattern. 4
- 20) a) Explain the functional block diagram of 8255 PPI. 5
 b) Write a note on interfacing devices. 5